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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/Z 42151.77-2024

**Communication networks and systems for power utility
automation - Part 7-7: Machine-processable format of IEC
61850-related data models for tools**

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents"

Drafting:

This document is Part 7-7 of GB/T 42151 "Electric Power Automation Communication Networks and Systems": GB/T 42151 has been published in

Lower part:

- Part 3: General requirements;
- Part 4: System and project management;
- Part 5: Functional communication requirements and device model;
- Part 7-7: IEC 61850 related data model machine processable format for tools;
- Part 8-1: Specific Communication Service Mapping (SCSM) Mapping to MMS (ISO 9506-1 and ISO 9506-2) and

ISO /IEC 8802-3:

This document is equivalent to IEC TS61850-7-7:2023 "Electric power automation

communication networks and systems Part 7-7: For tools

IEC 61850 related data model machine processable format", the file type is adjusted from IEC technical specification to my country's national standardization guidance

Technical documents:

The following minimal editorial changes were made to this document:

--- Incorporated the amendments to IEC 61850-7-7:2018/Amd1:2023, the outer margins of the clauses involved are marked with

Vertical double lines (||) are marked:

Introduction

GB/T 42151 "Electric Power Automation Communication Network and System" aims to provide interoperability for all devices in the electric power automation system:

It consists of the following parts:

--- Part 1: Introduction: The purpose is to introduce the overview of this document:

--- Part 2: Terminology: The purpose is to list the terms and definitions used in this document:

--- Part 3: General requirements: The purpose is to introduce the overall requirements of communication networks, with an emphasis on quality requirements:

--- Part 4: System and project management: The purpose is to describe the requirements for system and project management processes and the requirements for engineering and testing

Dedicated support tools required:

--- Part 5: Communication requirements for functions and device models: The purpose is to specify the communication requirements for various functions of the power automation system:

--- Part 6: Communication configuration description language for power automation systems associated with intelligent electronic devices: The purpose is to

exchange of intelligent electronic device capability descriptions in a way that allows for the exchange of power automation system capabilities between tools provided by different manufacturers

describe:

--- Part 7: Basic communication structure of power automation system: The purpose is to define a hierarchical class model and the services provided by these classes: